

# **3**

## **OPERATION SUMMARY**

### 3. OPERATION SUMMARY

#### 3.1 INTRODUCTION

The operation summary provided in this chapter is intended as a brief reminder for use only by experienced operators. These procedures should not be used until the operator is fully conversant with the equipment, and with the full operation procedure given in Chapter 4. It is also essential to read Chapter 2 (Safety) before any attempt is made to operate the laser. If any fault occurs during operation of the laser, reference should be made to Chapter 6 (Fault Finding).

#### 3.2 RUNNING UP THE LASER FROM COLD

- 1) Check that the gas supply (external or internal) is connected to the laser.

Note: Except for extended shutdown periods, the gas cylinder must remain connected to the laser at 2bar gauge delivery pressure.

- 2) Connect the electricity supply and switch on at the power supply switch.
- 3) Turn the key switch on: the READY LED will illuminate after a few seconds delay.
- 4) Press the START switch. Laser emission can occur at any time during the warm-up period. Stable output is normally achieved after one hour.

Note: If the Dirt Monitor switches the laser off during run-up, wait until the ready light is illuminated, then press START again.

#### 3.3 SWITCHING OFF THE LASER

- 1) Press the STOP switch.
- 2) Wait 30 minutes (or until the laser head inlet fans stop running).
- 3) Turn off the key switch.

Note: The laser may be disabled at any time by turning off the key switch and removing the key. However, because the laser head cooling fans will then be powered from the internal battery supply, it is not advisable regularly to turn the key switch off within 30 minutes of pressing the STOP switch.

#### 3.4 RUNNING UP THE LASER FROM WARM

- 1) Ensure that the key switch is on.
- 2) Press the START switch. The time taken for the first appearance of laser emission will be less than when running up from cold.

Note: If the Dirt Monitor switches the laser off during run-up, wait until the READY light is illuminated, then press START again.

### 3.5 RUNNING UP THE LASER AFTER AN EXTENDED SHUTDOWN OR SERVICE PROCEDURE

Note: This procedure should only be necessary if the laser is NOT fitted with a Condition Timer. Lasers fitted with a Condition Timer will automatically run at high gas flow for a fixed period. This procedure can also be used if high gas flow is required outside this time period.

- 1) Check that the gas supply (external or internal) is connected to the laser.
- 2) Connect the electricity supply and switch on at the power supply switch.
- 3) Turn the key switch on: the READY LED will illuminate after a few seconds delay.
- 4) Press the START switch and depress the FAST GAS IN and FAST GAS OUT manual override switches which are in the LT side of the power supply. Laser emission can occur at any time during the warm-up period. Stable output is normally achieved after one hour.
- 5) When the first laser emission appears, return both the FAST GAS IN and FAST GAS OUT switches to their normal positions.

Note: If the Dirt Monitor switches the laser off during the run-up, wait until the READY light is illuminated, then press START again. Several Dirt Monitor operations can be expected after an extended shutdown period or after the vacuum envelope has been open to the air.